



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Subject: **POLREP #16**
Morris Lithium Battery Fire
C5TN
Morris, IL
Latitude: 41.3631780 Longitude: -88.4120145

To: Doug Ballotti, EPA R5
Tom Short, EPA R5
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Thomas Casey, Will County Health
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Michelle Pruiem, Grundy County Health Dept
Tracey Steffes, Morris Fire Department
Alicia Steffes, Morris Police Department
Julie Armitage, Illinois EPA

From: Leonard Zintak, On-Scene Coordinator
Date: 7/27/2021
Reporting Period: 7/23/2021 - 7/27/2021

1. Introduction

1.1 Background

Site Number:	C5TN	Contract Number:	
D.O. Number:		Action Memo Date:	
Response Authority:	CERCLA	Response Type:	Emergency
Response Lead:	EPA	Incident Category:	Removal Action
NPL Status:	Non NPL	Operable Unit:	
Mobilization Date:	6/29/2021	Start Date:	6/29/2021
Demob Date:		Completion Date:	
CERCLIS ID:		RCRIS ID:	
ERNS No.:		State Notification:	6/29/2021
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category

Emergency Response

1.1.2 Site Description

The site is located at East and Benton Streets in Morris, Grundy County, Illinois. At approximately 12:00 pm on June 29th, Morris Fire Department responded to a fire at the old Federal Paper Board building, now owned by Superior Battery Inc., which was being used to store a large quantity of lithium batteries, solar panels and other waste electronics. Over 184,000 lbs. of lithium batteries are thought to have been stored in the building. Because the fire contains lithium, the Morris Fire Department initially made the decision to let the fire burn itself out. Water and fire fighting foam can accelerate the fire and cause environmental damage.

1.1.2.1 Location

East and Benton Streets, Morris, Grundy County, Illinois

1.1.2.2 Description of Threat

The Superior Battery building housed several tons of lithium batteries that have been partially consumed in the fire. The smoke plume threatened to release contaminants into the atmosphere potentially exposing nearby residents to hazardous substances including particulates, metals, and volatile organics.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

On-Scene Coordinators (OSCs) Leonard Zintak and Lauren McCarrell mobilized to the site on June 29, 2021. On June 29, 2021, at approximately 14:00 hours, EPA mobilized the Superfund Technical Assessment and Response Team (START) to respond to the incident.

According to the Morris Fire Chief, the fire was discovered at approximately 1200 hours on June 29, 2021. The Grundy County Emergency Management Agency ordered an emergency evacuation of residents within a 1/2 mile radius of the site. The evacuation order was lifted on 7/2/2021.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

2.1.2 Response Actions to Date

July 23-July 27 Update

U.S. EPA continues daytime monitoring of air quality and is providing guidance and support to the Morris Fire Department and local, state and federal agencies. The air quality around the perimeter of the site and in the surrounding neighborhood is good. Occasional particulate monitor exceedances occur in upwind monitoring locations due to sources including local traffic and the western wildfires, or when the relative humidity is very high. We have transitioned to daytime roving air monitoring at eight locations around the site on a 12-hr/day basis. This monitoring phase of the response will continue until site access is received from the property owner and the cleanup can begin. Air sampling will be conducted periodically in the neighborhood surrounding the site. Fire watch from outside the fence line of the site also continues during daytime hours. Planning for a cleanup continues. Air monitoring data is being posted in the Documents section as it becomes available.

July 19-July 22

U.S. EPA continues daytime monitoring of air quality and is providing guidance and support to the Morris Fire Department and local, state and federal agencies. The air quality around the perimeter of the site and in the surrounding neighborhood is good. Occasional particulate monitor exceedances occur due to upwind sources or when the relative humidity is high. We have transitioned to daytime roving air monitoring at eight locations around the site on a 12-hr/day basis. This monitoring phase of the response will continue until site access is received from the property owner and the cleanup can begin. Air sampling will be conducted periodically in the neighborhood surrounding the site. Air sampling around the perimeter of the site is being conducted today. Fire watch from outside the fence line of the site also continues during daytime hours. Planning for a cleanup continues. Air monitoring data is being posted in the Documents section as it becomes available.

July 15-July 18

U.S. EPA continues 24-hr monitoring of air quality and is providing guidance and support to the Morris Fire Department and local, state and federal agencies. The air quality around the perimeter of the site and in the surrounding neighborhood is good. Occasional humidity related particulate monitor exceedances occur especially at night when the relative humidity is high. We have transitioned to roving air monitoring. The stationary monitors at the site fence line were removed and mobile/roving monitoring is being conducted at eight locations around the site on a 24-hr basis. This monitoring phase of the response will continue until site access is received from the property owner and the cleanup can begin. Air sampling will be conducted periodically in the neighborhood surrounding the site. Fire watch from outside the fence line of the site also continues on a 24-hr basis. Planning for a cleanup continues. Air monitoring data is being posted in the Documents section as it becomes available.

July 14

U.S. EPA continues 24-hr monitoring of air quality and is providing guidance and support to the Morris Fire Department and local, state and federal agencies. The air quality around the perimeter of the site and in the surrounding neighborhood is good. Today we are transitioning to roving air monitoring. The stationary monitors at the site fence line are being removed and mobile/roving monitoring will be conducted on a 24-hr basis. This roving monitoring will occur at the site perimeter and in the surrounding neighborhood. Another round of air sampling was completed today. Planning for a cleanup continues. Air monitoring data continues to be posted in the Documents section.

July 13

U.S. EPA continues 24-hr monitoring of air quality and is providing guidance and support to the Morris Fire Department and local, state and federal agencies. The air quality around the perimeter of the site and in the surrounding neighborhood is good. Monitoring of the batteries inside the building continues. Planning for a cleanup continues. Air monitoring data continues to be posted in the Documents section.

July 11

U.S. EPA continues 24-hr monitoring of air quality and is providing guidance and support to the Morris Fire Department and local, state and federal agencies. The air quality around the perimeter of the site and in the surrounding neighborhood is good. Rainfall could cause the water reactive lithium batteries to react or reignite. Monitoring of these batteries will continue. Planning for a cleanup continues. Air monitoring data continues to be posted in the Documents section.

July 10

U.S. EPA continues 24-hr monitoring of air quality and is providing guidance and support to the Morris Fire Department and local, state and federal agencies. The air quality around the perimeter of the site and in the surrounding neighborhood is good. Today, U.S. EPA in coordination with the Fire Dept, is securing the opening in the SE corner of the building to protect the area from rain and trespassing. The hot spot in the SE corner appears to be extinguished. Monitoring of the former hotspot areas will continue. Planning for a cleanup continues. Air monitoring data continues to be posted in the Documents section.

July 9

U.S. EPA continues 24-hr monitoring of air quality and providing guidance and support to the Morris Fire Department and local, state and federal agencies. The air quality around the perimeter of the site and in the surrounding neighborhood is good. Today, U.S. EPA provided support to the Fire department by removing part of an unstable brick/concrete wall near a smoldering hotspot inside the building. The Fire Department then took actions to continue to extinguish the south hotspot inside the building. Planning for a cleanup continues. The IEPA continues to monitor the outfall at the I&M Canal. Air monitoring data continues to be

posted in the Documents section.

July 8

U.S. EPA continues to monitor air quality and to provide guidance and support to the Morris Fire Department and local, state and federal agencies. The air quality around the perimeter of the site and in the surrounding neighborhood is good. The Morris Fire Department has requested U.S. EPA's support tomorrow (Friday) in removing part of an unstable brick/concrete wall in the south east part of the building near a smoldering hotspot inside the building. This action is part of the emergency firefighting phase of the incident. On Saturday, the Fire Department plans to apply water to extinguish the hotspot. Illinois EPA has requested US EPA assistance in conducting a time-critical removal action at the site. Planning for a cleanup is underway. The Illinois EPA continues to monitor the storm sewer outfall at the I&M Canal. Air monitoring data continues to be posted in the Documents section.

7/7/21

U.S. EPA continues to conduct air monitoring and provide guidance and support to the Morris Fire Department and local, state and federal agencies. Inside the Superior Battery building, there is no visible smoke and the north hot spot appears to be mostly extinguished. Thermal imaging from the drone indicated that the south hot spot is still smoldering/reacting. Plans are currently being developed to address the south hot spot in the building. The EPA Emergency & Rapid Response Services (ERRS) contractor has been mobilized and will assist the Morris Fire Dept with addressing the south hot spot. The ERRS contractor will remove part of the southeast building wall tentatively on Friday so that the Fire Dept can apply water to the area on Saturday. Illinois EPA and U.S. EPA continue to monitor the outfall and have collected water samples today from the I&M Canal outfall and from the water collection trench on the east side of the building (on City property). Air monitoring data continues to be posted in the Documents section.

7/6/21

U.S. EPA continues to monitor outdoor air quality and provide guidance and support to the Morris Fire Department and local, state and federal agencies. Today, the Morris Fire Department entered the Superior Battery building with U.S. EPA/START providing support for air monitoring. Because there are holes in the roof and rain is in the forecast for tomorrow, containers that are alleged to contain batteries but were not impacted by the fire were covered with plastic. The Morris Fire Department applied approximately 20,000 gallons of water over a 45 minute period to the north hot spots (smoldering lithium batteries) inside the building. The hot spots will be reevaluated with thermal cameras tomorrow. Illinois EPA and U.S. EPA continue to monitor the outfall at the I&M Canal. Air and wipe samples from the neighborhood were shipped to the laboratories today for expedited analysis. Air monitoring data continues to be posted in the Documents section.

7/5/21

U.S. EPA continues to conduct air monitoring and provide guidance and support to the Morris Fire Department and local, state and federal agencies. As of this morning there are no concerns with off-site air quality. This afternoon there was a short term minor exceedance in particulates detected at the site perimeter at an upwind location. Monitoring will continue on a 24-hr basis. A drone flyover was completed which included mapping the interior of the Superior Battery building and recording the temperature of the two hot spots. Plans were also made to make a Level B entry into the building on July 6 with the Morris Fire Department. US EPA is conducting wipe sampling of outdoor surfaces in the residential area this afternoon, and also collecting air samples at four locations at the perimeter of the site. The EPA Environmental Response Team (ERT) is providing technical support and equipment for this incident. Illinois EPA and US EPA continue to monitor the outfall at the I&M Canal south east of the site. Air Monitoring Data continues to be posted in the Documents section.

7/4/21

US EPA continues to conduct air monitoring at the site perimeter and in the surrounding neighborhood. US EPA continues to provide guidance and support to the Morris Fire Department and local, state and federal agencies. As of this morning and early afternoon, there are no concerns with off-site air quality. Air monitoring data is posted in the Documents Section of the website. Daily drone flyovers indicate the hot spot temperatures are dropping inside the Superior Battery building. Fire crews remain on standby at the scene. Today Illinois EPA inspected the I&M Canal located 3 blocks southeast of the site and there was no site runoff visible. US EPA is preparing to conduct outdoor wipe sampling in the residential surrounding the site tomorrow. The Illinois EPA is assisting with sampling plan development. The Illinois Department of Public Health (IDPH) is developing action levels for the wipe sampling, air sampling and soil sampling. The wipe sampling will be conducted on public and residential properties. Access agreements have been obtained for the sampling as needed. Preparations are underway for another round of ambient air sampling beginning tomorrow afternoon. Tomorrow, the Morris Fire Department and Grundy County are planning another drone flyover to monitor the hot spots and also to conduct mapping (3D imaging) of the building. The Morris Fire Department is planning to cover the batteries in the building unaffected by the fire to protect them from rain that is expected for mid week.

7/3/21

The evacuation order has been lifted as of July 2 at 4 pm. Fire Department monitoring of the site building and the smoldering batteries continues. Occasional occurrences of visible smoke above the hot spot areas in the building are expected to continue for days or weeks. US EPA has four stationary air monitoring stations on the site perimeter. Roving air monitoring is occurring on a 24-hour basis in the neighborhood within two blocks of the site. US EPA and Illinois EPA inspected the storm sewer outfall into the I&M Canal located approximately 3 blocks southeast of the site. There was no site runoff visible. IEPA and the City of Morris have inflatable air bladders staged near the site to plug the storm sewers if firefighting water or rain water begin to accumulated on site. Plans are underway to conduct wipe sampling in the neighborhood on Monday.

7/2/21

The site continues to be monitored by the Fire Departments for flare ups that could occur. US EPA will continue to air monitor while reducing the monitoring footprint closer to the site perimeter. Four air monitoring stations connected to viper are streaming data to the OSC portal. These parameters include: VOCs, LEL, CO, H2S, and O2, total particulates, acid gases/HF.

START has also collected a second round of air samples with Gillian Pumps collecting total metals and

alkali dust. Summa canisters were also being collected and sent to a laboratory for analysis.

In anticipation of lifting the evacuation for Morris residents, US EPA continues to reduce the stationary air monitoring footprint to the site perimeter. Also mobile air monitoring will be conducted 24/7 through the July 4 holiday weekend and likely into next week.

Additionally, US EPA has been working with Illinois EPA and the CST, who also are collecting air monitoring data.

6/29 - 7/1 Summary

The Morris Fire Department and numerous other fire departments from across northern Illinois are on site monitoring the fire but are not suppressing the fire with water or fire fighting foam due to the possibility of a violent reaction with the lithium batteries. A mandatory evacuation was issued for all residents within a 1/2 mile radius of the Superior Battery building. The evacuation order was then extended until 4 p.m. on July 2, 2021. The evacuation center is located at First Christian Church, 455 W. Southmor Road in Morris.

US EPA deployed two OSCs and eight START contractors to provide 24-hour, round-the-clock air monitoring and sampling support to the Unified Command. The Morris Fire Chief is the incident commander.

US EPA consulted with Agency for Toxic Substances and Disease Registry (ATSDR), the Illinois Department of Public Health (IDPH), and the Grundy County Health Department to establish action levels/re-occupancy levels for air monitoring data.

The Interagency Modelling and Atmospheric Assessment Center (IMAAC) provided plume models for the release. This model predicted potential plumes trending to the northeast and southeast from the site, with hazardous, very hazardous, and unhealthy soot levels as well as acid gas/hydrogen fluoride levels that potentially could have extended into residential neighborhoods. Real-time air monitoring data did not show any elevated levels of contaminants in the residential areas outside of the evacuation area above action levels.

US EPA START contractors are performing site perimeter and community air monitoring for volatile organic compounds (VOCs), lower explosive limit (LEL), carbon monoxide (CO), hydrogen sulfide (H₂S), oxygen (O₂), particulates, and acid gases/hydrogen fluoride. Illinois National Guard Civil Support Team members are also providing air monitoring support for the response by deploying AreaRAEs to monitor VOCs, LEL, CO, H₂S, and O₂.

Due to the lithium batteries contained within the building, the Morris Fire Department initially planned to let the fire burn itself out. After consulting with experts about lithium battery fire fighting techniques, the fire department decided to apply a dry chemical agent called 'Purple K' with a small amount of water to suppress the fire. At approximately 14:00 on 6/30/21, the fire department removed part of the building wall and gained access to the fire from this location. They discovered a 30 by 40 foot area of burning batteries and applied the 'Purple K' product at approximately 15:30. The Purple K was unsuccessful in extinguishing the fire. After observing no adverse reaction to the application of Purple K and water, the fire department continued to apply water only to the burning area. They applied high flow water to the fire and once the batteries were cooled, the fire department applied Portland cement at approximately 18:00. The 30 by 40 foot battery area was covered with Portland cement as well as a few hot spots within the building. The fire department completed application of cement at approximately 23:00 on 6/30/21 and have not observed any significant smoke from the batteries since. Solar panels, lead/acid batteries, nickel cadmium batteries, and roofing materials were also reportedly inside the building. It is likely that the roofing materials burned in the fire.

Illinois EPA is assessing the storm drains and outfalls to the I&M Canal and the Illinois River for potential runoff. None has been detected so far.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

Jin Zheng, the president of Superior Battery Inc., has been identified as the property owner.

2.1.4 Progress Metrics

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Manifest #</i>	<i>Treatment</i>	<i>Disposal</i>

2.2 Planning Section

2.2.1 Anticipated Activities

US EPA will continue to provide 12-hour/day air monitoring support during the response while there is a chance of fire/chemical reactions occurring on site. Daytime roving air monitoring will continue around the site perimeter and in the surrounding neighborhood until site access is received and a cleanup can begin.

Air, surface water and soil samples will also be collected as needed.

2.2.1.1 Planned Response Activities

US EPA will continue to provide 12-hour daytime roving air monitoring support and fire watch support to the Fire Dept. during the emergency response until site conditions are stable and a cleanup can begin.

The structural integrity of the site building will be evaluated prior to beginning cleanup activities.

US EPA will continue to collect outdoor air, wipe and water samples as needed.

2.2.1.2 Next Steps

The water reactive lithium batteries on-site will be monitored during this emergency phase of the

incident. Site cleanup plans are being developed and will be implemented when a site access agreement is received.

2.2.2 Issues

Rainfall can potentially cause water reactive lithium batteries to react or reignite. Some of the lithium batteries may continue to smolder and these "hot spots" will be monitored with infrared (thermal) cameras as necessary. The structural integrity of the building will be evaluated prior to initiating cleanup activities.

2.3 Logistics Section

No information available at this time

2.4 Finance Section

2.4.1 Narrative

The Superfund Technical Assessment and Response Team (START) contractor is Tetra Tech Inc.

The Emergency & Rapid Response Services (ERRS) contractor is Environmental Restoration, LLC

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
ERRS - Cleanup Contractor	\$50,000.00	\$27,900.00	\$22,100.00	44.20%
TAT/START	\$435,000.00	\$322,000.00	\$113,000.00	25.98%
Intramural Costs				
Total Site Costs	\$485,000.00	\$349,900.00	\$135,100.00	27.86%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

2.5.1 Safety Officer

Morris Fire Dept

2.5.2 Liaison Officer

2.5.3 Information Officer

PIO- Stan Knudson, City of Morris

3. Participating Entities

3.1 Unified Command

see below

3.2 Cooperating Agencies

EPA Region 5
U.S. DOT
US Coast Guard
ATF
Illinois EPA
Illinois State Police
Illinois Emergency Management Agency
Illinois National Guard 5th Civil Support Team (CST)
Illinois Mutual Aid Box Alarm System
Grundy County Sheriff
Grundy County EMA
Grundy County Health Department
Morris Fire Dept
Morris Police Dept
Morris Mayor's Office
Red Cross

4. Personnel On Site

EPA: 1
START: 1-2
ERRS: 0

Morris Fire Dept.
Morris Police Dept.

5. Definition of Terms

No information available at this time.

6. Additional sources of information

6.1 Internet location of additional information/report
response.epa.gov/morrislithiumbatteryfire

6.2 Reporting Schedule

It is anticipated that POLREPS will be provided at 48-72 hour intervals or as needed

7. Situational Reference Materials

response.epa.gov/morrislithiumbatteryfire